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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,806	07/07/2004	Martin Pemberton		8289

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EXAMINER

WALTERS, JOHN DANIEL

ART UNIT PAPER NUMBER

3618

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/500,806

Applicant(s)

PEMBERTON ET AL.

Examiner

John D. Walters

Art Unit

3618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19,21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19,21 and 22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claims 1 – 19, 21, and 22 have been examined. Claim 20 has been canceled by Applicant.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 3, 7, 8, 9, 13, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2, 9 and 13, the phrase "by, say, <limitation>", which is understood to be a phrase similar in meaning to "for example", renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claims 3 and 8, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claims 3, 7, and 22, the use of additional modifiers listed parenthetically renders the claim indefinite because it is unclear whether the limitation(s) contained within said parentheses are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 13, the phrase " $\frac{3}{4}$ (three quarters) discrete route markers", parenthetical addition mine, is unclear. For the sake of continuing examination, it will be assumed that " $\frac{3}{4}$ " is referring to three out of four of the markers, not that the markers are 75% discrete. Correction for clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 6, 8, 11, 13, 18, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Margolis et al. (5,390,118). Margolis discloses an automatic lateral guidance control system comprising:

- a route marker (Fig. 1, item 34) disposed along a prescribed route (Fig. 1, item 28);

- wherein said route is subdivided into sequential segments each accorded a respective steering instruction (Fig. 9);
- said route marker comprising multiple discrete elements, i.e. common road reflectors (column 4, lines 43 – 47);
- wherein said multiple discrete marker elements are configured for a collective response by 3 out of 4 markers (Fig. 12(d)) with an on-board vehicle arbitrator to mediate (Fig. 11);
- said route marker comprising a continuous element , i.e. painted reflective stripes (column 4, lines 49 – 52);
- said route marker being responsive to interrogation by a vehicle mounted transducer (column 6, lines 3 – 6) to provide route guidance and steering direction (column 5, lines 62 – 66) to a steering actuator (column 6, line 17);
- said interrogation relays route information (column 6, lines 3 – 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis et al. (5,390,118) in view of Cofino et al. (6,288,629). Margolis discloses an automatic lateral guidance control system as described above. Margolis does not make use of

radio frequency identification tags with integral memory as markers. Cofino, however, discloses a method of using radio frequency tags comprising:

- a radio frequency identification tag (Fig. 2, item 42);
- wherein said tag contains integral memory chips (Fig. 2, item 44).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the RFID tag of Cofino with the guidance control system of Margolis in order to provide markers, which could record data relating to vehicles interacting with said tag.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis et al. (5,390,118) in view of Bush (5,708,427). Margolis discloses an automatic lateral guidance control system as described above. Margolis does not disclose magnetized markers or markers staggered along a centerline. Bush, however, discloses a vehicle in-lane positional indication/control comprising:

- magnetized identification tags, i.e. road coils (Fig. 2);
- said tag reflecting direction by polarization (Fig. 3);
- said tags having a lateral offset to straddle a centerline (Fig. 2).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the magnetized identification tags of Bush with the guidance control system of Margolis in order to provide a reliable, non-optical steering control system, which avoids visual/reflective system issues with obscuring weather or damage to visual tag systems.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis et al. (5,390,118) in view of Tachibana et al. (5,815,825). Margolis discloses an automatic lateral guidance control system as described above. Margolis does not disclose the use of additional markers on curves or bends. Tachibana, however, discloses a vehicle guidance system comprising:

- magnetic nails, i.e. markers, laid at a closer pitch along the curve of a road (Fig. 9, item 100 & column 4, line 23 – 29).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the increased marker presence at curves of Tachibana with the control system of Margolis in order to provide finer graduations of location/direction information to said control system within road curves.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis et al. (5,390,118) in view of Mio et al. (6,081,756) and Fujii (5,315,295). Margolis discloses an automatic lateral guidance control system as described above. Margolis does not disclose additional uses of said markers. Mio, however, discloses a vehicle running management system comprising:

- markers pre-programmed by passage, i.e. platoon running (column 2, lines 39 – 48);
- markers available for interrogation (Fig. 16);
- markers recording vehicle ID and time of passage (Fig. 17);

- markers/system servicing as wayside beacons (Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the marker functionality of Mio with the control system of Margolis in order to provide information gathering capabilities to said control system.

Mio does not disclose selective grouping of said markers. Fujii, however, discloses a vehicle control system comprising:

- selective grouping of route markers, i.e. GPS satellites (Fig. 5, items 77A – 77D).

In regards to points b, c and d, the addition of “ for collision avoidance and transit history”, “for accident investigation” and “for productivity” are considered intended use language and as such a structure capable of performing said use is applicable prior art.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the control system of Margolis in view of Mio with the markers of Fujii in order to add additional flexibility to said control system.

Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis et al. (5,390,118) in view of Tamura et al. (6,269,897). Margolis discloses an automatic lateral guidance control system as described above. Margolis does not disclose the use of a backup system for steering control. Tamura, however, discloses a steering control device comprising:

- a secondary steering module (Fig. 1, item 12 & Fig. 3);
- expressed as sequential instructions (column 2, lines 62 – 64);
- configured as an emergency backup (column 6, lines 18 – 34).

In regards to claim 17, while Tamura does not explicitly state that the route information is stored in table form, said data is stated as being located within "map data". As following a map is, in effect, sequential instructions, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to store said data in a multitude of forms including physical maps, tables, or lists.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the backup steering module of Tamura with the guidance system of Margolis in order to provide emergency control should primary steering mechanisms fail.

Claims 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis et al. (5,390,118) in view Lemelson et al. (6,275,773). Margolis discloses an automatic lateral guidance control system as described above. Margolis does not disclose an automated braking system. Lemelson, however, discloses a collision avoidance system comprising:

- a facility for triggering emergency braking (column 9, lines 49 – 55).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine the emergency braking system of Lemelson with the guidance system of Margolis in order to provide automated speed control to minimize or avoid an impact, which is detected by said system, which is not acted upon by an operator.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bowers et al. (2001/0000019) disclose RFID tags of note. Barrett et al. (5,331,561), Akutsu et al. (5,987,374), Schreder (5,504,482), Schuman et al. (6,161,071), Dance et al. (6,230,097), and Honkura et al. (6,336,064) disclose guidance and control systems of note.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John D. Walters whose telephone number is (571) 272-8269. The examiner can normally be reached on Monday - Friday, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

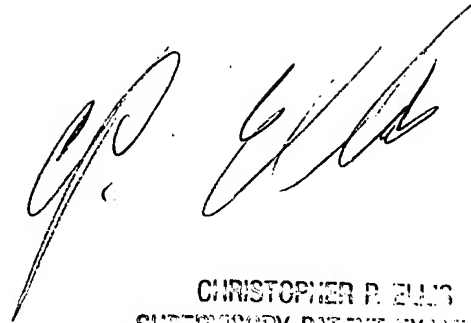
John D. Walters

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JDW

Handwritten initials "JDW" inside a circle.Handwritten signature of Christopher P. Ellis.

CHRISTOPHER P. ELLIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER GROUP